

Subpart VV—National Emission Standards for Oil-Water Separators and Organic-Water Separators

SOURCE: 61 FR 34195, July 1, 1996, unless otherwise noted.

§63.1040 Applicability.

The provisions of this subpart apply to the control of air emissions from oil-water separators and organic-water separators for which another subpart of 40 CFR parts 60, 61, or 63 references the use of this subpart for such air emission control. These air emission standards for oil-water separators and organic-water separators are placed here for administrative convenience and only apply to those owners and operators of facilities subject to the other subparts that reference this subpart. The provisions of 40 CFR part 63, subpart A—General Provisions do not apply to this subpart except as noted in the subpart that references this subpart.

§63.1041 Definitions.

All terms used in this subpart shall have the meaning given to them in the Act and in this section. If a term is defined in both this section and in another subpart that references the use of this subpart, then the definition in this subpart shall take precedence when implementing this subpart.

Closure device means a cap, hatch, lid, plug, seal, valve, or other type of fitting that, when the device is secured in the closed position, prevents or reduces air emissions to the atmosphere by blocking an opening in a fixed roof or floating roof. Closure devices include devices that are detachable from the cover (e.g., a sampling port cap), manually operated (e.g., a hinged access lid or hatch), or automatically operated (e.g., a spring-loaded pressure relief valve).

Continuous seal means a seal that forms a continuous closure that completely covers the space between the edge of the floating roof and the wall of a separator. A continuous seal may be constructed of fastened segments so as to form a continuous seal.

Fixed roof means a cover that is mounted on a separator in a stationary position and does not move with fluctuations in the level of the liquid managed in the separator.

Floating roof means a pontoon-type or double-deck type cover that rests upon and is supported by the liquid managed in a separator.

Liquid-mounted seal means a foam- or liquid-filled continuous seal that is mounted between the wall of the separator and the floating roof, and the seal is in contact with the liquid in a separator.

Oil-water separator means a separator as defined for this subpart that is used to separate oil from water.

Organic-water separator means a separator as defined for this subpart that is used to separate organics from water.

Metallic shoe seal means a continuous seal that is constructed of metal sheets which are held vertically against the wall of the separator by springs, weighted levers, or other mechanisms and is connected to the floating roof by braces or other means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

No detectable organic emissions means no escape of organics to the atmosphere as determined using the procedure specified in § 63.1046(a) of this subpart.

Regulated-material means the material (e.g. waste, wastewater, off-site material) required to be managed in separators using air emission controls in accordance with the standards specified in this subpart.

Safety device means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to the separator air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purpose of this subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath the separator cover. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials.

Separator means a waste management unit, generally a tank, that is used to separate oil or organics from water. A separator consists of not only the separation unit but also the forebay and other separator basins, skimmers, weirs, grit chambers, sludge hoppers, and bar screens that are located directly after the individual drain system and prior to any additional treatment units such as an air flotation unit clarifier or biological treatment unit. Examples of a separator include an API separator, parallel-plate interceptor, and corrugated-plate interceptor with the associated ancillary equipment.

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§ 63.1042 Standards—Separator fixed roof.

(a) This section applies to owners and operators subject to this subpart and controlling air emissions from an oil-water separator or organic-water separator using a fixed roof.

(b) The separator shall be equipped with a fixed roof designed to meet the following specifications:

(1) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the separator.

(2) The fixed roof shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between roof section joints or between the interface of the roof edge and the separator wall.

(3) Each opening in the fixed roof shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device.

(4) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the regulated-material to the atmosphere, to the extent practical, and will maintain the integrity of the equipment throughout its intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: organic vapor permeability; the effects of any contact with the liquid and its vapors managed in the separator; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the separator on which the fixed roof is installed.

(c) Whenever a regulated-material is in the separator, the fixed roof shall be installed with each closure device secured in the closed position except as follows:

(1) Opening of closure devices or removal of the fixed roof is allowed at the following times:

(i) To provide access to the separator for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the separator, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the separator.

(ii) To remove accumulated sludge or other residues from the bottom of separator.

(2) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the

purpose of maintaining the pressure in vapor headspace underneath the fixed roof in accordance with the separator design specifications. The device shall be designed to operate with no detectable organic emissions, as determined using the procedure specified in § 63.1046(a) of this subpart, when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the pressure in the vapor headspace underneath the fixed roof is within the pressure operating range determined by the owner or operator based on the cover manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials.

(3) Opening of a safety device, as defined in § 63.1041 of this subpart, is allowed at any time conditions require it to do so to avoid an unsafe condition.

(d) The owner or operator shall inspect the fixed roof and any closure devices in accordance with the requirements specified in § 63.1047(a) of this subpart.

§ 63.1043 Standards—Separator floating roof.

(a) This section applies to owners and operators subject to this subpart and controlling air emissions from an oil-water separator or organic-water separator using a floating roof.

(b) The separator shall be equipped with a floating roof designed to meet the following specifications:

(1) The floating roof shall be designed to float on the liquid surface during normal operations.

(2) The floating roof shall be equipped with two continuous seals, one above the other, between the wall of the separator and the roof edge. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(i) The primary seal shall be a liquid-mounted seal or a metallic shoe seal, as defined in § 63.1041 of this subpart. The total area of the gaps between the separator wall and the primary seal shall not exceed 67 square centimeters (cm²) per meter of separator wall perimeter, and the width of any portion of these gaps shall not exceed 3.8 centimeters (cm).

(ii) The secondary seal shall be mounted above the primary seal and cover the annular space between the floating roof and the wall of the separator. The total area of the gaps between the separator wall and the secondary seal shall not exceed 6.7 square centimeters (cm²) per meter of separator wall perimeter, and the width of any portion

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of these gaps shall not exceed 1.3 centimeters (cm).

(3) Except as provided for in paragraph (b)(4) of this section, each opening in the floating roof shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

(4) The floating roof may be equipped with one or more emergency roof drains for removal of stormwater. Each emergency roof drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

(c) Whenever a regulated-material is in the separator, the floating roof shall float on the liquid (i.e., off the roof supports) and each closure device shall be secured in the closed position except as follows:

(1) Opening of closure devices is allowed at the following times:

(i) To provide access to the separator for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the separator, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position.

(ii) To remove accumulated sludge or other residues from the bottom of separator.

(2) Opening of a safety device, as defined in § 63.1041 of this subpart, is allowed at any time conditions require it to do so to avoid an unsafe condition.

(d) The owner or operator shall inspect the floating roof in accordance with the procedures specified in § 63.1047(b) of this subpart.

§ 63.1044 Standards—Separator vented to control device.

(a) This section applies to owners and operators controlling air emissions from an oil-water or organic-water separator using a fixed roof and venting the vapor headspace underneath the fixed roof through a closed-vent system to a control device.

(b) The separator shall be covered by a fixed roof and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(1) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the separator.

(2) Each opening in the fixed roof not vented to the control device shall be equipped with a clo-

sure device. If the pressure in the vapor headspace underneath the fixed roof is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the fixed roof is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions, as determined using the procedure specified in § 63.1046(a) of this subpart.

(3) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the regulated-material to the atmosphere, to the extent practical, and will maintain the integrity of the equipment throughout its intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: organic vapor permeability; the effects of any contact with the liquid or its vapors managed in the separator; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the separator on which the fixed roof is installed.

(4) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 63.693 in 40 CFR part 63, subpart DD—National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations.

(c) Whenever a regulated-material is in the separator, the fixed roof shall be installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

(1) Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

(i) To provide access to the separator for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the separator, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the separator.

(ii) To remove accumulated sludge or other residues from the bottom of separator.

(2) Opening of a safety device, as defined in § 63.1041 of this subpart, is allowed at any time conditions require it to do so to avoid an unsafe condition.

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(d) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the procedures specified in § 63.1047(c) of this subpart.

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§ 63.1046 Test methods and procedures.

(a) Procedure for determining no detectable organic emissions for the purpose of complying with this subpart.

(1) The test shall be conducted in accordance with the procedures specified in Method 21 of 40 CFR part 60, appendix A. Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the cover and associated closure devices shall be checked. Potential leak interfaces that are associated with covers and closure devices include, but are not limited to: the interface of the cover and its foundation mounting; the periphery of any opening on the cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure-relief valve.

(2) The test shall be performed when the separator contains a material having an organic HAP concentration representative of the range of concentrations for the regulated-materials expected to be managed in the separator. During the test, the cover and closure devices shall be secured in the closed position.

(3) The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the organic constituents in the regulated-material placed in the separator, not for each individual organic constituent.

(4) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(5) Calibration gases shall be as follows:

(i) Zero air (less than 10 ppmv hydrocarbon in air); and

(ii) A mixture of methane in air at a concentration of approximately, but less than, 10,000 ppmv.

(6) The background level shall be determined according to the procedures in Method 21 of 40 CFR part 60 appendix A.

(7) Each potential leak interface shall be checked by traversing the instrument probe around the potential leak interface as close to the interface as possible, as described in Method 21. In the case when the configuration of the cover or closure device prevents a complete traverse of the interface, all accessible portions of the interface shall be sampled. In the case when the configuration of the

closure device prevents any sampling at the interface and the device is equipped with an enclosed extension or horn (e.g., some pressure relief devices), the instrument probe inlet shall be placed at approximately the center of the exhaust area to the atmosphere.

(8) The arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 500 ppmv. If the difference is less than 500 ppmv, then the potential leak interface is determined to operate with no detectable organic emissions.

(b) Procedure for performing floating roof seal gap measurements for the purpose of complying with this subpart.

(1) The owner or operator shall determine the total surface area of gaps in the primary seal and in the secondary seal individually.

(2) The seal gap measurements shall be performed at one or more floating roof levels when the roof is floating off the roof supports.

(3) Seal gaps, if any, shall be measured around the entire perimeter of the floating roof in each place where a 0.32-centimeter (cm) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the separator and measure the circumferential distance of each such location.

(4) For a seal gap measured under paragraph (b)(2) of this section, the gap surface area shall be determined by using probes of various widths to measure accurately the actual distance from the separator wall to the seal and multiplying each such width by its respective circumferential distance.

(5) The total gap area shall be calculated by adding the gap surface areas determined for each identified gap location for the primary seal and the secondary seal individually, and then dividing the sum for each seal type by the nominal perimeter of the separator basin. These total gap areas for the primary seal and secondary seal then are compared to the respective standards for the seal type as specified in § 63.1043(b)(2) of this subpart.

§ 63.1047 Inspection and monitoring requirements.

(a) Owners and operators that use a separator equipped with a fixed roof in accordance with the provisions of § 63.1042 of this subpart shall meet the following requirements:

(1) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air emissions to the atmosphere. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the separator wall; broken, cracked, or otherwise damaged seals

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or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(2) The owner or operator shall perform the inspections following installation of the fixed roof and, thereafter, at least once every year.

(3) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d) of this section.

(4) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 63.1048(a)(2) of this subpart.

(b) Owners and operators that use a separator equipped with a floating roof in accordance with the provisions of § 63.1043 of this subpart shall meet the following requirements:

(1) The owner or operator shall measure the floating roof seal gaps using the procedure specified in § 63.1046(b) of this subpart in accordance with the following requirements:

(i) The owner or operator shall perform measurements of gaps between the separator wall and the primary seal within 60 days after initial operation of the separator following installation of the floating roof and, thereafter, at least once every 5 years.

(ii) The owner or operator shall perform measurements of gaps between the separator wall and the secondary seal within 60 days after initial operation of the separator following installation of the floating roof and, thereafter, at least once every year.

(iii) If a separator ceases to hold regulated-material for a period of 1 year or more, subsequent introduction of regulated-material into the separator shall be considered an initial operation for the purpose of complying with paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(iv) In the event that the seal gap measurements do not conform to the specifications in § 63.1043(b)(2) of this subpart, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d) of this section.

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 63.1048 (a)(2) and (b) of this subpart.

(2) The owner or operator shall visually inspect the floating roof in accordance with the following requirements:

(i) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air emissions to the atmosphere. Defects include, but are not limited to: holes, tears, or other openings in the rim seal or seal fabric of the floating roof;

a rim seal detached from the floating roof; all or a portion of the floating roof deck being submerged below the surface of the liquid in the separator; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform the inspections following installation of the floating roof and, thereafter, at least once every year.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 63.1048(a)(2) of this subpart.

(c) Owners and operators that use a separator equipped with a fixed roof and vented through a closed-vent system to a control device in accordance with the provisions of § 63.1044 of this subpart shall inspect the air emission control equipment as follows:

(1) The owner or operator shall visually inspect the fixed roof in accordance with the following requirements:

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the separator wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform the inspections following installation of the fixed roof and, thereafter, at least once every year.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 63.1048(a)(2) of this subpart.

(2) The owner or operator shall inspect and monitor the closed-vent system and the control device in accordance with the requirements specified in § 63.693 in 40 CFR 63 subpart DD—National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations.

(d) The owner or operator shall repair all detected defects as follows:

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(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (d)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the separator and no alternative treatment capacity is available at the facility site to accept the regulated-material normally treated in the separator. In this case, the owner or operator shall repair the defect at the next time the process or unit that is generating the regulated-material managed in the separator stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(3) The owner or operator shall maintain a record of the defect repair in accordance with the requirements specified in § 63.1048(a)(3) of this subpart.

§ 63.1048 Recordkeeping requirements.

(a) Each owner or operator shall prepare and maintain the following records:

(1) Documentation describing the design of each floating roof and fixed roof installed on a separator, as applicable to the separator. When a floating roof is used, the documentation shall include the dimensions of the separator bay or section in which the floating roof is installed.

(2) A record for each inspection required by § 63.1047 of this subpart that includes the following information: a separator identification number (or other unique identification description as selected by the owner or operator) and the date of inspection.

(3) The owner or operator shall record for each defect detected during inspections required by § 63.1047 of this subpart the following information: the location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of § 63.1047(d)(2) of this section, the owner or operator shall also record the reason for

the delay and the date that completion of repair of the defect is expected.

(b) Owners and operators that use a separator equipped with a floating roof in accordance with the provisions of § 63.1043 of this subpart shall prepare and maintain records for each inspection required by § 63.1047(b)(1) describing the results of the seal gap measurements. The records shall include the date of the measurements performed, the raw data obtained for the measurements, and the calculations of the total gap surface area. In the event that the seal gap measurements do not conform to the specifications in § 63.1043(b)(2) of this subpart, the records shall include a description of the repairs that were made, the date the repairs were made, and the date the separator was emptied, if necessary.

(c) Owners and operators that use a separator equipped with a fixed-roof and vented through a closed-vent system to a control device in accordance with the provisions of § 63.1044 of this subpart shall prepare and maintain the records required for the closed-vent system and control device in accordance with the requirements of § 63.693 in 40 CFR 63 subpart DD—National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations.

§ 63.1049 Reporting requirements.

(a) Owners and operators that use a separator equipped with a floating roof in accordance with the provisions of § 63.1043 of this subpart shall notify the Administrator at least 30 calendar days prior to each seal gap measurement inspection performed to comply with the requirements in § 63.1047(b)(1) of this subpart.

(b) Owners and operators that use a separator equipped with a fixed-roof and vented through a closed-vent system to a control device in accordance with the provisions of § 63.1044 of this subpart shall prepare and submit to the Administrator the reports required for closed-vent systems and control devices in accordance with the requirements of § 63.693 in 40 CFR 63 subpart DD—National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations.